

Application No. 10/655,719

REMARKS

In the office action of August 11, 2005, claims 1, 3 and 8 were rejected under 35 USC §112, second paragraph, for certain specified reasons. Claims 1, 3 and 8 were rejected under 35 USC §103(a) as being unpatentable over Fiala et al. (US 5,930,396) in view of Kanno (US 5,701,364).

The reconsideration given to the application is appreciated.

Claim 1 has been amended to recite that each N-pixel tile is produced from an associated portion of pre-half-toned data, which is believed to be implicit and understood in the original claim. Claim 3 has been amended to recite that each N-pixel tile is produced from an associated portion of original data, which is believed to be implicit and understood in the original claim. Claim 8 has been amended to recite that an N-pixel tile is produced pursuant to associated half-tone threshold values, which is believed to be implicit in the original claim. In view of these clarifying amendments, it is respectfully believed that the Section 112 rejections, although believed improper, have been overcome.

The Section 103(a) rejections are respectfully traversed since Fiala et al. and Kanno et al. do not teach or suggest each and every limitation of the claims.

Fiala et al. discloses a method for generating a half-tone output by calculating a reference gray level for a tile of multi-bit data and using the calculated gray level as an index to a table that provides a half-tone pattern for the tile. Kanno discloses binarizing multi-bit image data by comparing multi-bit data to threshold array values and then using a run extension process to determine whether the image is a character image or a half-tone image.

Accordingly, these references do not teach or suggest the claimed combinations including for example:

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comparing each N-pixel tile to a corresponding N-pixel reference tile that comprises a half-toned binary pattern that would be produced by the predetermined half-toning procedure for such N-pixel tile if the portion of a pre-half-toned data that resulted in such N-pixel tile were of uniform lightness;

identifying an N-pixel tile as comprising a portion of a half-toned uniform region if it matches the corresponding N-pixel reference tile.

As to the contention in the office action that Fiala et al. discloses means of a method of detecting a portion of a half-toned uniform area in a half-toned bit map, the portion of Fiala et al. relied on by the office action states that:

A regular (i.e., uniform) halftoned geometry introduces additional patterning at the periodicity of the regular halftoned dots. For example, if halftoned dots recur in a regular pattern every five pixels, long streaks may be formed with a five pixel separation. When an image has an edge that is at a small angle with respect to a column, row, diagonal, or other line of halftoned dots, then low frequency 'beating' patterns can occur between that feature in the image and the halftoned dots. Also, for multi-color printing with regular screens, screen angles must be carefully chosen to reduce the spatial frequency of interactions between the different halftoned screens of the different colors. (Fiala et al., Col. 11, lines 1-12).

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It is respectfully submitted that this describes potential issues with a regular halftoned geometry, and does not teach detection of a portion of a half-toned uniform area.

As to the contention in the office action that Kanno teaches comparing each N-pixel tile to a corresponding N-pixel reference tile that comprises a half-toned binary pattern that would be produced by the predetermined half-toning procedure for such N-pixel tile if the portion of a pre-half-toned data that resulted in such N-pixel tile were of uniform lightness, it is respectfully submitted that the Kanno comparison relied on by the office action comprises comparing multi-bit data to threshold array values to produce binarized or binary half-toned data. There is no comparison of a tile of a half-toned bit-map to a reference bit-map tile that comprises a half-toned binary pattern that would be produced by the predetermined half-toning procedure for such N-pixel tile if the portion of a pre-half-toned data that resulted in such N-pixel tile were of uniform lightness.

As to the contention in the office action that Kanno teaches identifying an N-pixel tile as comprising a portion of a half-toned uniform region if it matches the corresponding N-pixel reference tile, it is respectfully submitted that Kanno does not compare an N-pixel tile of a half-toned bit map with an N-pixel reference tile that comprises a half-toned binary pattern that would be produced by the predetermined half-toning procedure for such N-pixel tile if the portion of a pre-half-toned data that resulted in such N-pixel tile were of uniform lightness, and thus could not teach or suggest identifying an N-pixel tile as comprising a portion of a half-toned uniform region if it matches the corresponding N-pixel reference tile.

As to the office action's reliance on Kanno Col 6, lines 53-62, that portion of Kanno states:

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Simultaneously with the run length calculating process in the run length calculating unit 3 in FIG. 1, an extending process (run extension process) of an image is performed in the run extension unit 4 on the basis of the binary image signal 21. In this case, the run extension process is a process in which, when a target pixel (black pixel) of an input image is used as an object, and a black pixel is located within a specific pixel range in the main scanning direction, all the pixels between the target pixel and the black pixel are replaced with black pixels.

It is respectfully submitted that this refers to a run extension process performed on the binarized image, and is not relevant to any limitations of the claimed combinations.

As to the contention in the office action that it would be obvious to use the comparison of Kanno in Fiala, it is respectfully submitted that pursuant to such modification Fiala would generate a half-tone output using threshold array values in a manner similar to the "prior art" FIG. 1 of Fiala. There would be no comparison of an N-pixel tile of a half-toned bit map with an N-pixel reference tile that comprises a half-toned binary pattern that would be produced by the predetermined half-toning procedure for such N-pixel tile if the portion of a pre-half-toned data that resulted in such N-pixel tile were of uniform lightness.

Reconsideration is respectfully requested.

Although no additional fee is believed to be required for this response, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the Issue Fee, to Xerox Corporation Deposit Account No. 24-0025.

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If the Examiner considers personal contact advantageous to the disposition of this case, please call Applicant's attorney, Manuel Quiogue at (585) 423-1235.

Respectfully submitted,



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